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United States Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE

PRE-APPEAL BRIEF REQUEST FOR REVIEW	Docket Number (Optional) 089229.00058
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____ Signature _____ Typed or printed Name _____	Application Number: 10/616,292
	Filed: July 10, 2003
	First Named Inventor: Ari HOTTINEN
	Art Unit: 2617
	Examiner: Zewdu, Meless NMN

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- ☐ Applicant/Inventor.
☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under
37 CFR 3.73(b) is enclosed

☒ Attorney or agent of record.
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☐ Attorney or agent acting under 37 CFR 1.34.
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September 25, 2007

Date

NOTE: Signatures of all of the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Confirmation No.: 1589

Ari HOTTINEN

Art Unit: 2617

Application No.: 10/616,292

Examiner: Zewdu, Meless NMN

Filed: July 10, 2003

Attorney Dkt. No.: 089229.00058

For: POSITIONING METHOD AND RADIO SYSTEM

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

September 25, 2007

Sir:

In accordance with the Pre-Appeal Brief Conference Pilot Program guidelines set forth in the July 12, 2005 Official Gazette Notice, Applicant hereby submits this Pre-Appeal Brief Request for Review of the final rejections of claims 1-65 in the above identified application. Claims 1-65 were finally rejected in the Office Action dated June 25, 2007. Applicant filed a Response to the Final Office Action on August 23, 2007, and the Office issued an Advisory Action dated September 13, 2007 maintaining the final rejections of claims 1-65. Applicant hereby appeals these rejections and submits this Pre-Appeal Brief Request for Review.

The Office Action rejected claims 1-3, 5-12, 15, 17, 19, 23-25, 29, 31, 32, 34-45, 49, 51, 53 and 57-60 under 35 U.S.C. 103(a) as being obvious over US Patent No. 6,249,680 to Wax et al. (Wax), in view of US Patent Publication No. 2005/0009528 to Iwamura et al. (Iwamura). The Office Action asserted that Wax discussed all of the features of claims except at least one identifier. The Office Action asserted that Iwamura disclosed this feature. Applicants respectfully submit that the cited references, taken individually or in combination, fail to disclose or suggest all of the features of any of the pending claims.

Claim 1, from which claims 2-30 depend, is directed to a method for performing positioning in a radio system. At least one identifier signal is transmitted to at least two different channels, each identifier signal being suited for channel estimation. A receiver receives the at

least one identifier signal through at least two different channels. Based on the at least one received identifier signal from the at least two different channels, a spatial signature of the channels is estimated. Based on information related to the location of a receiver or a transmitter of the at least one identifier signal the spatial signature is defined.

Claim 31, from which claims 32-59 depend, is directed to a radio system configured to perform positioning the radio system including a transmitter, a receiver and at least one base station. The transmitter includes an antenna comprising at least two antenna elements. The transmitter is configured to transmit at least one identifier signal to at least two different channels, each identifier signal being suited for channel estimation. The receiver is configured to receive said at least one identifier signal and to estimate, on the basis of the at least one received identifier signal from the at least two different channels, a spatial signature of the channels.

Claim 60 is directed to a method for performing positioning in a radio system. A transmitted transmits at least one identifier signal to at least two different directions, each identifier signal being suited for channel estimation related to the different directions. A receiver receives the at least one identifier signal transmitted through at least two different directions. Based on the at least one received identifier signal from the at least two different directions, a spatial signature of the channels is estimated. Based on the spatial signature, information related to the location of a receiver or a transmitter of the at least one identifier signal is defined.

Applicants submit that each of the pending claims recite features that are neither disclosed nor suggested in any of the cited references.

As discussed in previous correspondence, Wax is directed to location finding in a CDMA wireless communication system. Wax describes the use of multi-path signals in order to determine a transmitter's location. See col. 5 lines 49-53. Direct path and multi-path signals from a mobile transmitter arrive at an array of p antennas belonging to a cellular network base station. A location finding apparatus connected to the base station contains a multi-channel receiver that uses PN sequence information provided by the base station receiver to despread the p signals and the separate each of the p signals into temporally distinct multi-path parts. Col. 6 lines 41-44. A signal signature is calculated for each active mobile. The signature is compared to a database of calibrated signal signatures and corresponding locations and the location that best matches the measured signature is selected as the most likely position of the mobile

transmitter. See col. 8 lines 36-59. However, as admitted in the Office Action, Wax is silent with regards to an “identifier signal”. The Office Action relied on Iwamura to cure this deficiency. However, Applicants submit that Iwamura fails to cure the admitted deficiencies of Wax.

As discussed in previous correspondence, Iwamura is directed to searching for a neighboring cell by using grouped channel identifiers sent from the sectors to the mobile station in the mobile communications system that allows the mobile station communicating with a plurality of base stations to decide sectors that the mobile station waits for or communicates with. Iwamura assigns channel identifiers belonging to the same group to sectors of the same base station, and sends from the base station to the visiting mobile station, a notification of any one of the channel identifiers assigned to the sectors of one of neighboring base stations. The Office Action asserted that when Wax is modified with Iwamura’s channel identifier, Wax’s estimation of the spatial signal will be based on channel identities by the channel identifiers.

Applicants respectfully submit that the cited references fail to disclose or suggest at least the feature of “transmitting at least one signal to at least two different channels, each signal being suitable for channel estimation, and receiving, in a receiver, said at least one identifier signal through at least two different channels”, as recited in claim 1 and similarly recited in claims 31 and 60. Specifically, Applicants submit that Iwamura fails to cure the deficiencies of Wax. Iwamura is directed to grouping channel identifiers to enhance cell searching. Groups of channel identifiers are searched rather than individual channel identifiers. Thus, Iwamura does not even contemplate using the channel identifiers for location determination and does not cure the deficiencies of Wax. This failure constitutes clear error in the Office Action.

As discussed in previous correspondence, to establish *prima facie* obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings and the prior art references must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In the present case, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in claims 1, 31 and 60 at least for the reasons discussed above, and one skilled in the art would not be motivated to combine the teachings of Wax and Iwamura because the two references are non-analogous.

As discussed at least in the Response that was filed on August 23, 2007, Wax is directed to location finding in a CDMA wireless communication system, and Iwamura is directed to searching for a neighboring cell by using grouped channel identifiers sent from the sectors to the mobile station in the mobile communications system. Thus, Iwamura does not even contemplate using the channel identifiers for location determination. One skilled in the art would recognize that, for example, neighbor lists used for handover (cell searching) are not suitable for location determination. Thus, one skilled in the art would not be motivated to modify Wax with Iwamura as alleged in the Office Action, without the benefit of impermissible hindsight because the two references are not analogous. Further, the Office Action asserted that when Wax is modified with Iwamura's channel identifier, Wax's estimation of the spatial signal will be based on channel identified by the channel identifiers. However, Applicants respectfully submit that the Office Action is reading features into these two references. For example, there is no hint in Iwamura that would suggest using the channel identifiers for location measurement at least for the reasons discussed above. Thus, one skilled in the art would not be motivated to combine Wax and Iwamura.

Thus, as discussed above the Office Action failed to establish *prima facie* obviousness in rejecting claims 1-3, 5-12, 15, 17, 19, 23-25, 29, 31, 32, 34-45, 49, 51, 53 and 57-60 because 1) the cited references fail to disclose or suggest all of the features of these claims, and 2) one skilled in the art would not be motivated to combine the teachings of Wax and Iwamura. This failure constitutes clear error in the Office Action.

The Office Action rejected claims 4, 16, 20, 33, 46 and 54 under 35 U.S.C. 103(a) as being obvious over Wax and Iwamura, in view of US Patent No. 6,351,499 to Paulraj et al. (Paulraj). As discussed in previous correspondence, Paulraj fails to cure the deficiencies of Wax and Iwamura. This failure constitutes clear error in the Office Action.

The Office Action rejected claims 13 and 14 under 35 U.S.C. 103(a) as being obvious over Wax and Iwamura, in view of US Patent No. 6,009,334 to Grubeck et al. (Grubeck). As discussed in previous correspondence, Grubeck fails to cure the deficiencies of Wax and Iwamura. This failure constitutes clear error in the Office Action.

The Office Action rejected claims 21, 22, 26-28, 47, 48, 55 and 56 under 35 U.S.C. 103(a) as being obvious over Wax and Iwamura, in further view of US Patent No. 6,011,974 to

Cedervall et al. (Cedervall). As discussed in previous correspondence, Cedervall fails to cure the deficiencies of Wax and Iwamura. This failure constitutes clear error in the Office Action.

The Office Action rejected claims 18, 30, 52 and 61-65 under 35 U.S.C. 103(a) as being obvious over Wax and Iwamura, in further view of the publication "Closed loop Transmit Diversity Techniques for Multi-Element Transceivers" to Hottinen et al., (Hottinen). As discussed in previous correspondence, Hottinen fails to cure the deficiencies of Wax and Iwamura. This failure constitutes clear error in the Office Action.

Applicants respectfully submit that based at least on the above, the Office Action failed to establish prima facie obviousness in the rejections of claims 1-65. This failure constitutes clear error in the Office Action.

Reconsideration and withdrawal of the rejections, in view of the clear errors in the Office Action, is respectfully requested. In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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